

OPERATOR'S MANUAL

MicroStufferTM
PrinterBuffer



Supra Corporation

Introduction

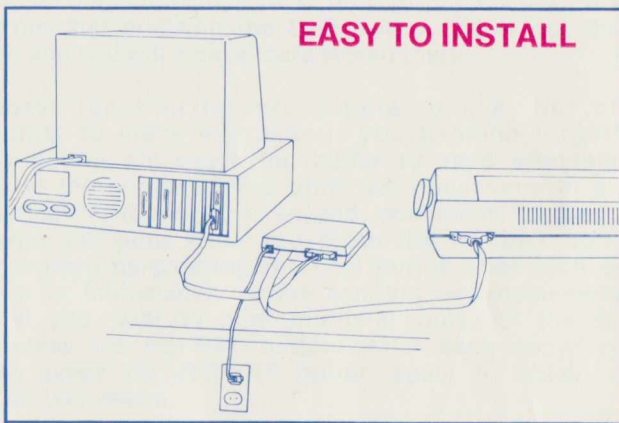
The MicroStuffer PrinterBuffer is an easy to use productivity tool that will free your computer from managing printing tasks - which allows you more productive keyboard time. The MicroStuffer does this by accepting print data from the computer at very high speeds and then sending the data to the printer at the printer's own print rate. MicroStuffer can also print multiple copies of the same document, further saving valuable time. You never need to wait for a document to print again!

The MicroStuffer is compatible with most Centronics standard parallel printers and computers. Printers, interfaces, or computer printer ports that **DO NOT** match the Centronics parallel standard will not function properly with the MicroStuffer. If there is any question concerning the compatibility of your equipment, please refer to the **PIN USAGE DIAGRAM** in **APPENDIX A**.



Installation

Installing the MicroStuffer is very simple. The printer output cable from your computer (or printer interface) must be connected to the **INPUT** socket built into the rear of the MicroStuffer. The long cable attached to the rear of the MicroStuffer is the printer output cable. This should be connected to your printer. The power supply provided with the MicroStuffer should be connected to a 110V wall outlet and plugged into the jack marked 7 VDC on the back of the MicroStuffer. The MicroStuffer is now ready to use.



Self-Test Function

The MicroStuffer has a built-in SELF-TEST. Every time the unit is turned on, the self-test is activated. This test verifies that the RAM chips, microprocessor, and other circuitry are functioning correctly. While the test is running, all of the LEDs on the unit will light. This test takes about 8 seconds to complete. When the test is completed, both the REPEAT and the FULL indicator LEDs should turn off, indicating a successful test. If the two LEDs should begin blinking, or remain on, it indicates there was an error detected by the test. Most errors detected by the self-test are major malfunctions and will need to be returned to Supra Corporation for repair. You need to call our customer service department at (503) 967-9075 to get a Return Authorization Number and repair instructions.

Operation

Operating the MicroStuffer is very simple. After installation, simply turn the unit on and let it finish the self-test. Now you print as you normally would. The MicroStuffer will accept data at a very high speed and save it until the printer can accept it. Note that the MicroStuffer accepts data and sends it to the printer at the same time, further speeding up printing. The MicroStuffer has only two user controllable functions which are easy to use, but you must be careful or you may accidentally lose data.

If you decide not to print a document while the computer is still sending it to the buffer, you must first stop the computer from sending and then press the CLR button. If the MicroStuffer is printing the document, you need only to press the CLR button to stop. Note that pressing the CLR button clears out the buffer's memory, and you will lose all data stored there.

The repeat function is very simple to use, but offers an opportunity to make mistakes if you become forgetful. The REPEAT button will cause the buffer to send **everything** in its memory to the printer. If you print two documents in a row and then decide to reprint the second document, copies of both documents will print when you press the REPEAT button. This can be avoided by pressing the CLR button after each document is printed or immediately before sending new documents to the printer. If you want to print multiple copies of the document, simply press the REPEAT button. After each copy is printed, you may press the REPEAT button again to obtain as many copies as you desire.

The MicroStuffer indicates the amount of buffer space left with the FULL LED on the front panel. When the buffer is CLR'ed and has no data in it, the light will be completely off. As the MicroStuffer accepts data, the LED will begin to flash faster until it remains solid when the buffer is full. The flash rate is proportional to the amount of data in the buffer. If you continue to send data to the buffer after it is full, the REPEAT LED will begin flashing. The MicroStuffer will continue to accept data and send it to the printer, but it will not save this data. Once you completely fill the buffer's memory, you lose the ability to reprint the contents of the buffer. You must CLR the buffer's memory to be able to REPEAT print again.

Appendix A

PIN USAGE DIAGRAM (COMPUTER TO BUFFER)

- | | |
|----------------------|-----------------|
| 1. <u>STROBE</u> | 19. GROUND |
| 2. DATA1 | 20. GROUND |
| 3. DATA2 | 21. GROUND |
| 4. DATA3 | 22. GROUND |
| 5. DATA4 | 23. GROUND |
| 6. DATA5 | 24. GROUND |
| 7. DATA6 | 25. GROUND |
| 8. DATA7 | 26. GROUND |
| 9. DATA8 | 27. GROUND |
| 10. ACKNOWLEDGE | 28. GROUND |
| 11. BUSY | 29. GROUND |
| 12. PE (tied to GND) | 30. GROUND |
| 13. SELECT | 31. NO CONNECT |
| 14. NO CONNECT | 32. FAULT (+5V) |
| 15. NO CONNECT | 33. NO CONNECT |
| 16. GROUND | 34. NO CONNECT |
| 17. GROUND | 35. NO CONNECT |
| 18. + 5V | 36. NO CONNECT |

BUFFER TO PRINTER

- | | |
|------------------|-----------------|
| 1. <u>STROBE</u> | 9. DATA8 |
| 2. DATA1 | 10. ACKNOWLEDGE |
| 3. DATA2 | 11. BUSY |
| 4. DATA3 | 12. NO CONNECT |
| 5. DATA4 | 13. SELECT |
| 6. DATA5 | 14. NO CONNECT |
| 7. DATA6 | 15. NO CONNECT |
| 8. DATA7 | 16. GROUND |

PINS 17-34 NOT CONNECTED

Appendix B

EXTENDED SELF-TEST

MicroStuffer also has an extended self-test built into it. The purpose of this test is to help our technicians diagnose problems with the MicroStuffer, but occasionally it may help if you can diagnose the buffer yourself. Please note that attempting repair will void your warranty.

The extended self-test requires some setup on your part. First, disconnect the MicroStuffer from your computer and printer. To initiate the self-test follow the steps below:

1. Make sure unit is turned OFF.
2. Plug OUTPUT cable into INPUT socket.
3. While pressing REPEAT button, turn the unit on.

The POWER LED will light and remain lighted. The REPEAT and FULL status LED's will blink in an alternating pattern. After approximately two minutes, **both** LED's will light solidly for about eight seconds and then go dark (assuming everything has tested properly). In the event of a problem, the LED's will flash at varying rates. Various patterns indicate a specific problem as shown below:

REPEAT LED	VOLUME LED	PROBLEM
SOLID ON	FAST FLASH	BAD/ BROKEN WIRE IN CABLE
SOLID ON	SLOW FLASH	BAD HANDSHAKING LINES
SOLID ON	VERY FAST FLASH	BAD SERIAL PORT
FLASHING	SOLID ON	BAD RAM CHIP

The BAD RAM indication will function as follows: The REPEAT LED and the FULL LED will briefly turn **off**. The FULL LED will then come **on** solidly while the REPEAT LED flashes a specific number of times. Both LEDs will again go dark and the cycle will continue until the unit is turned off. The flashing REPEAT LED indicates the number of the RAM chip that is defective. The RAMs are numbered 1-8, with the locations marked on the circuit board. Please do not attempt repair on the unit yourself!

Warranty

Supra Corporation warrants the MicroStuffer Printer Buffer to be free from defects in material and workmanship and to meet applicable specifications under normal use and service for a period of 90 days after sale to the original owner. If any parts are deemed to be defective originally, or if these parts or equipment have become defective under normal usage rather than misuse, negligence, or accident, Supra Corporation will repair or replace them without charge. This warranty shall not apply to parts or equipment that has been repaired or altered outside of our repair facilities. Equipment that has been subjected to misuse, negligence, or accident or that has been altered or defaced, or has the serial number missing is not covered by this warranty. Repairs that are not covered by this warranty will be billed at current shop charges for parts and labor.

Supra Corporation does not assume any liability for any consequential damages caused by use of the MicroStuffer Printer Buffer.



Supra Corporation

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